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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Ludwig Brehm

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EXAMINER

ZIMMERMAN, JOSHUA D

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/564,506	Applicant(s) BREHM ET AL.
	Examiner JOSHUA D. ZIMMERMAN	Art Unit 2854

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 17-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/16/08; 01/12/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 17-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 04/21/09.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-16 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. It is recommended that Applicants rewrite the process claims such that each step is positively recited so it is clear exactly what Applicants regard as their invention.
4. Claim 1 recites the limitation "the fine structuring" in line 7. There is insufficient antecedent basis for this limitation in the claim. The first instance of 'fine structuring' (in line 4) appears to be a verb construction of 'fine structuring;' the second instance of 'fine structuring' (in line 7) appears to be a noun form. That is, the former instance appears to be referring to the physical process of structuring, while the latter instance appears to

Art Unit: 2854

be referring to the actual fine structure of the surface pattern. As such, based on the examiner's interpretation, the limitation "the fine structuring" lacks antecedent basis.

Appropriate correction and/or clarification is required.

5. Regarding claim 1, the recitation that 'the fine structuring of the surface pattern is determined by the respective locally applied application amount of printing substance and the respective local relief parameters of the microscopic surface structure' is indefinite as it is unclear if it is the process step of structuring or if it is the structure itself which is being determined. Furthermore, it is unclear how the local relief parameters or the amount of printing substance are used in the step of determining.

As such, for purposes of examination, prior art could not be applied to the final limitation of claim 1 (starting with 'and, wherein' in line 7). Appropriate correction and/or clarification is required.

6. A similar situation exists for claim 5: "wherein the width of a surface region of the surface pattern *is determined* by the choice of ..." It is unclear exactly what action is being performed and how the angle between the longitudinal axis and the orientation direction are being used in the step of determining. As such, prior art could not be applied to claims 5 or 10.

7. Regarding claim 1, the phrase "in particular" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Appropriate correction and/or clarification is required.

Art Unit: 2854

8. Claim 9 recites the limitation "the centering" in line 2. There is insufficient antecedent basis for this limitation in the claim.

9. Regarding claim 16, the phrases with "preferably" render the claim indefinite because it is unclear whether the limitation(s) following the phrases are part of the claimed invention. See MPEP § 2173.05(d). Appropriate correction and/or clarification is required.

10. Because of the numerous 35 U.S.C. §112, second paragraph, issues, the claims will be interpreted as best as possible.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-9, and 11-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Roule et al. (US 4715623).

Regarding claim 1, Roule et al. teach "a process for producing a high-resolution surface pattern on a substrate (abstract), wherein in the process a printing substance is applied to the substrate, in pattern form by means of a printing process (column 5, lines 44-48), wherein for fine structuring of the surface pattern prior to the application of the printing substance a microscopic surface structure with a plurality of grooves is

Art Unit: 2854

replicated in the surface of the substrate (column 5, lines 35-41)."

Regarding claim 2, Roule et al. further teach "wherein the fine structuring of the surface pattern is implemented by variations in the orientation direction of the grooves of the microscopic surface structure (see the differences in orientation of the grooves in figures 18-20)."

Regarding claim 3, Roule et al. further teach "wherein the fine structuring of the surface pattern is implemented by variations in the profile depth of the grooves of the microscopic surface structure (column 4, lines 61-63)."

Regarding claim 4, Roule et al. further teach "wherein the fine structuring of the surface pattern is implemented by variations in the profile shape of the grooves of the microscopic surface structure (see figures 23 and 25)."

Regarding claim 6, Roule et al. further teach "wherein the width of a surface region of the surface pattern is varied by the provision, in the surface region, of regions with a different orientation direction for the surface structure (see figure 18)." Examiner notes that since the surface of the substrate has the claimed regions with differing orientation directions, any subsequent properties of the printing substance after it is applied to the substrate would be inherent. See MPEP §2112.01.

Regarding claim 7, Roule et al. further teach "wherein the width of the surface region of the surface pattern is varied by the provision, in the surface region, of at least two regions with the orientation directions of the surface structure being rotated relative to each other through 90 degrees (see figure 18)."

Regarding claim 8, Roule et al. further teach "wherein the width of the surface

Art Unit: 2854

region of the surface pattern is varied by the provision, in the surface region, of regions with a different profile shape and/or profile depth of the surface structure (see figures 22 and 23)."

Regarding claim 9, Roule et al. further teach "wherein the centering of a surface region of the surface pattern is altered by an asymmetrical profile shape in the associated portion of the microscopic surface structure (see figures 22 and 24)."

Examiner notes that since the surface of the substrate has the claimed asymmetrical profile shape, any subsequent properties of the printing substance after it is applied to the substrate would be inherent. See MPEP §2112.01.

Regarding claim 11, Roule et al. further teach "wherein moiré patterns are produced by means of the fine structuring of adjacent surface regions by a variation in local relief parameters of the microscopic surface structure (see the overlapping patterns of figures 22 and 24)."

Regarding claim 12, Roule et al. further teach "wherein a micro-script pattern is produced by means of the fine structuring by a variation in local relief parameters of the microscopic surface structure (see the script of figures 17 and 22)."

Regarding claim 13, Roule et al. further teach "wherein a region in which the thickness of the printing substance layer varies in a pre-defined manner is produced by varying the profile depth of the grooves of the microscopic surface structure (column 4, lines 61-63)." Examiner notes that since the surface structure of Roule et al. has varying depths, any subsequent properties of the printing substance after it is applied to the substrate would be inherent. See MPEP §2112.01.

Regarding claim 15, Roule et al. further teach “wherein the fine structuring of the surface pattern is implemented by a variation in the relief parameters of the microscopic surface structure with a substantially constant application amount of printing substance per unit of surface area (see figures 16, 18, 22 and 23; column 5, lines 45-47).” Since, in figure 16, the image portions 32 appear to be the same amount per unit of surface area, the amount of printing substance is interpreted to be applied in ‘a substantially constant application amount.’

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roule et al.

Regarding claim 14, Roule et al. teach all that is claimed, as in claim 13 above, but fail to specifically teach “wherein a high-refractive lacquer is used as the printing substance and that a lens body is produced by the variation in the profile depth of the grooves in the region.” However, Examiner takes Official Notice that most intaglio printing inks are either transparent, or, if colored, translucent to a certain degree. Further, since the surface structure of Roule et al. has varying depths (see the rejection of claim 13 above), any subsequent properties of the printing substance after it is

Art Unit: 2854

applied to the substrate would be inherent. See MPEP §2112.01. Therefore, since the surface structure of Roule et al. is identical to that claimed by applicants, and the ink is at least translucent, the resultant structure of the printing substance layer would inherently meet the structural limitations implied by the term "lens body."

Since Applicants do not define precisely what is meant by "high-refractive lacquer," common intaglio inks are usually at least translucent, and they conventionally are cured, examiner interprets the intaglio inks used by Roule et al. to be a "high-refractive lacquer."

Regarding claim 16, Roule et al. teach all that is claimed, as in claim 1 above, including that the grooves may be of any depth and width, but that it is preferred that the depth be 0.0025 inches and that there be 120 grooves/inch. Roule et al. fail to teach that "the microscopic surface structure has a spatial frequency of more than 50 grooves/mm, preferably from 100 to 1200 grooves/mm, and a profile depth of less than 2 μm , preferably from 0.2 to 1.0 μm ." However, it has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to set the spatial frequency to more than 60 grooves/mm and the profile depth to less than 2 μm to optimize the resultant pattern in the substrate.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHUA D. ZIMMERMAN whose telephone number is

Art Unit: 2854

(571)272-2749. The examiner can normally be reached on M-R 8:30A - 6:00P,
Alternate Fridays 8:30A-5:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joshua D Zimmerman
Examiner
Art Unit 2854

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Examiner, Art Unit 2854